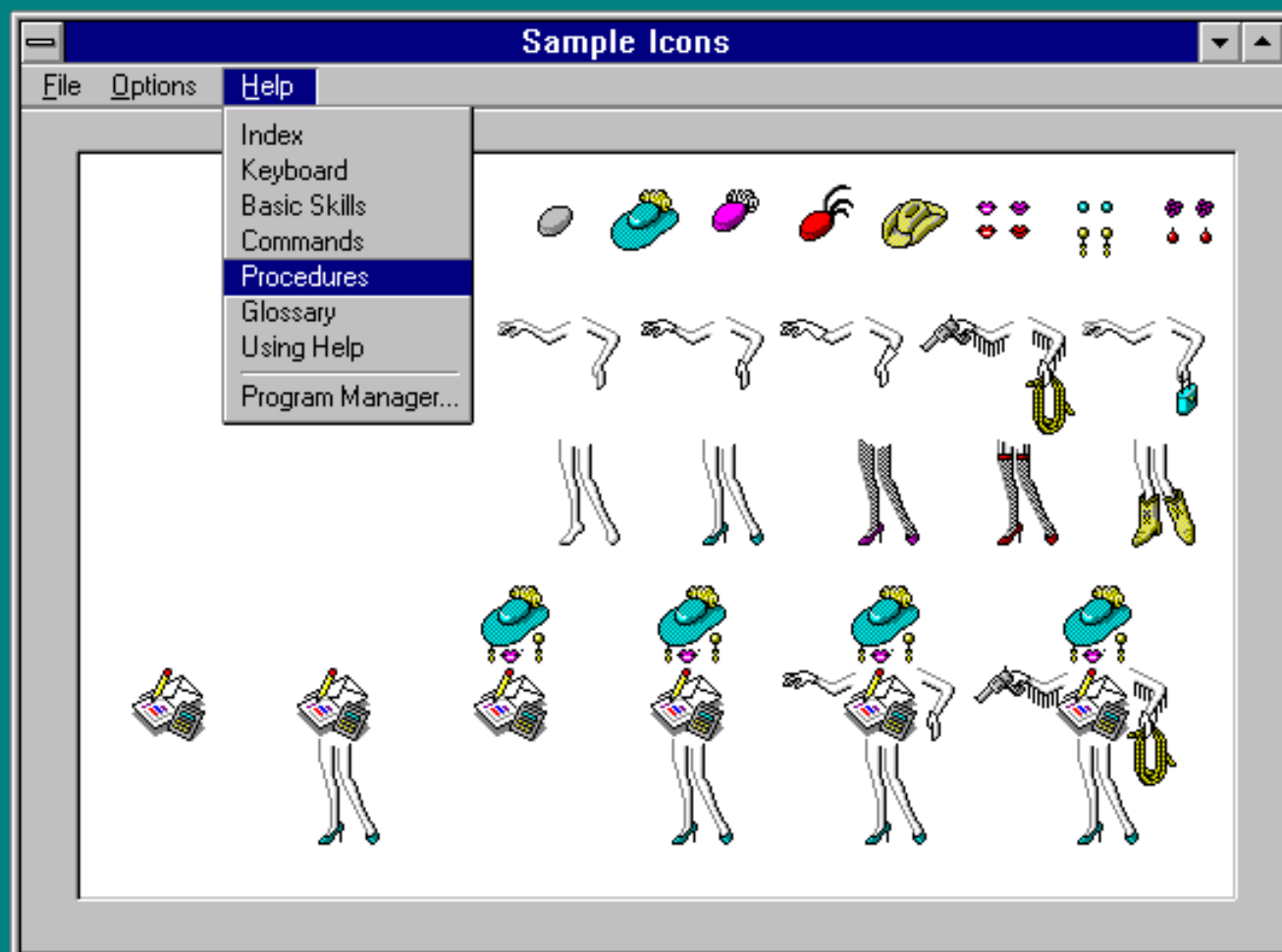


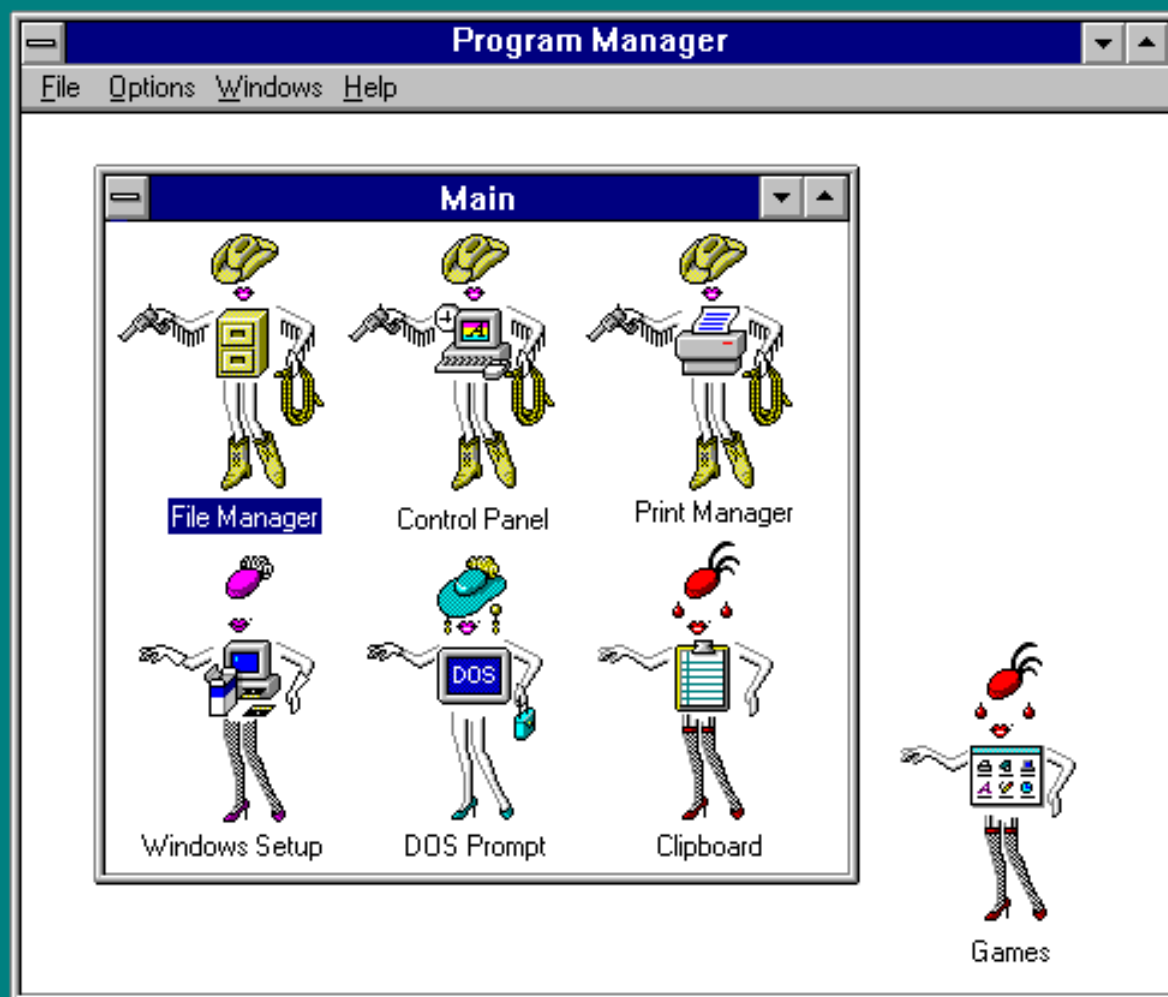
Microsoft®

The Art Of Visual Interface Design

**Virginia Howlett
Director**

**Visual Interface Design
Microsoft Corporation**





**“Sexy” graphics are
“Like lipstick on a
bulldog!”**

Norm Cox

**Thoughtful graphic design can
improve
your product’s usability and
marketability.**

Virginia Howlett

Take Advantage Of

- ◆ Principles of graphic design and visual perception
 - ◆ Unique qualities of screen and hardware
-

**Integrate graphic design
into the development
process early**



Important Mill News!!!



From: D.B. Cooper
To: Diane
Subject: IMPORTANT MILL NEWS!!!
Date: Mon Nov 12 1992 9:35



Diane,

I have some good news and some bad news. The good news is that the Asian order came through yesterday — that's a 22% increase! Here's the November forecast for our three lines of coffee:

Coffee Type	Pounds
Espresso	32,000
Columbian Decaf	26,500
Breakfast Blend	19,700

Looks great, right? Well, here's the bad news I mentioned:



Yesterday's Paper

Diane, can we handle the new demand now that we've lost one of our best plants?!? I don't want to lose any of the Asian account!

Good luck,
Cooper

Graphic Design Principles

- ◆ Metaphor
 - ◆ Shape
 - ◆ Color
 - ◆ Placement
 - ◆ Emphasis
- = Visual communication

Psychology And Perception

- ◆ Cultural bias
- ◆ How people see
- ◆ How people organize information
- ◆ Fonts
- ◆ Color effects





Yesterday's Paper



"All the News
That's Fit"

The Twin Hill Times

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SUNDAY, NOVEMBER 11, 1992

On-line Edition

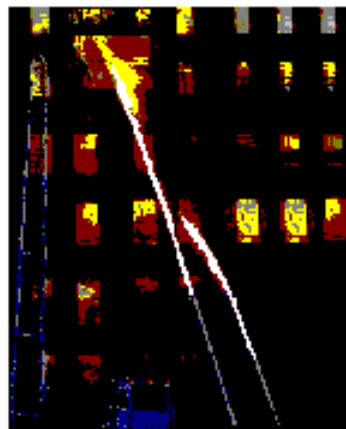
Coffee Plant Fire Costs Millions

By Virginia Dreger Malamud

Seattle WA — A mysterious three alarm fire destroyed the Twin Hills roaster yesterday after it raged through all twelve floors of the Grauman Building. "This is the worst disaster to hit Twin Hills since the Raccoon Lodge fire in 1959" said Tony Snodgrass, President of the Twin Hills Coffee Corporation. "Fortunately, no injuries were sustained during this disaster."

Damages to the plant and inventory of raw coffee beans could run as high as \$10 million dollars, according to fire department estimates.

The cause of the fire is under investigation, though deputy Tandy Howlett of the Twin Hills Fire Department say arson is suspected. It appears that something in the basement floor ignited the blaze.



Employees of the Twin Hills roaster say that smoke began appearing in the stairwells around 10am yesterday

[Continue...](#)

Workers Being Moved to Other Plants to Meet Current Orders

By Alison Ho and John Trower

Due to the need to fulfill current orders, the Twin Hills Coffee Corporation is temporarily re-locating employees from the Twin Hills area to other plants in the Northwest for the next several months.

The company anticipates sending most of the Twin Hills workers to the Walla Walla plant, with smaller numbers going to the Okanogan Hills and Columbia River plants.

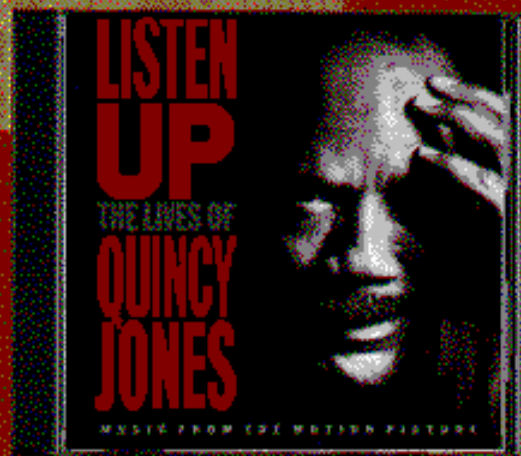
The Twin Hills facility was responsible for 25% of the production of Twin Hills Coffee.

Much of the roasted coffee was sold to overseas markets, according to Lisa Laney, Twin Hills Vice President of

[Continue...](#)



MUSIC FROM THE MOTION PICTURE



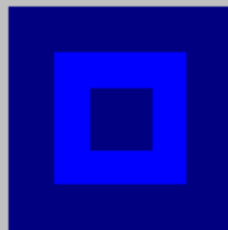
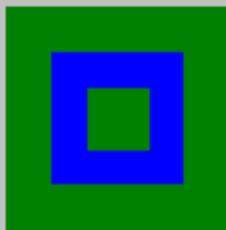
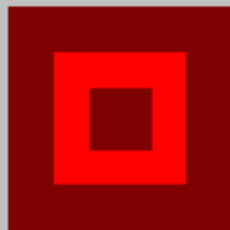
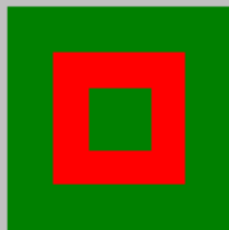
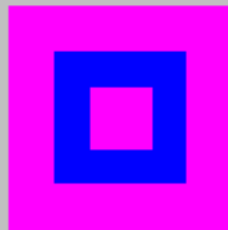
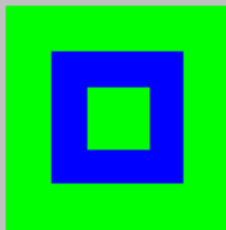
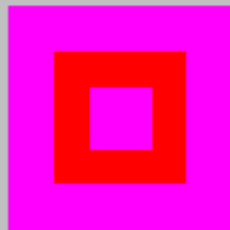
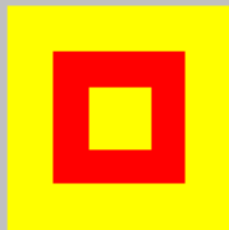
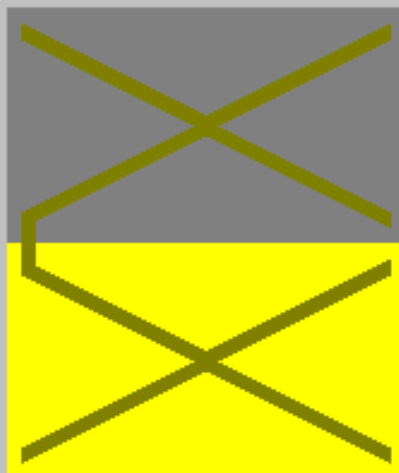
THE FIRST
COMPILATION
OF QUINCY'S
GREATEST MUSIC

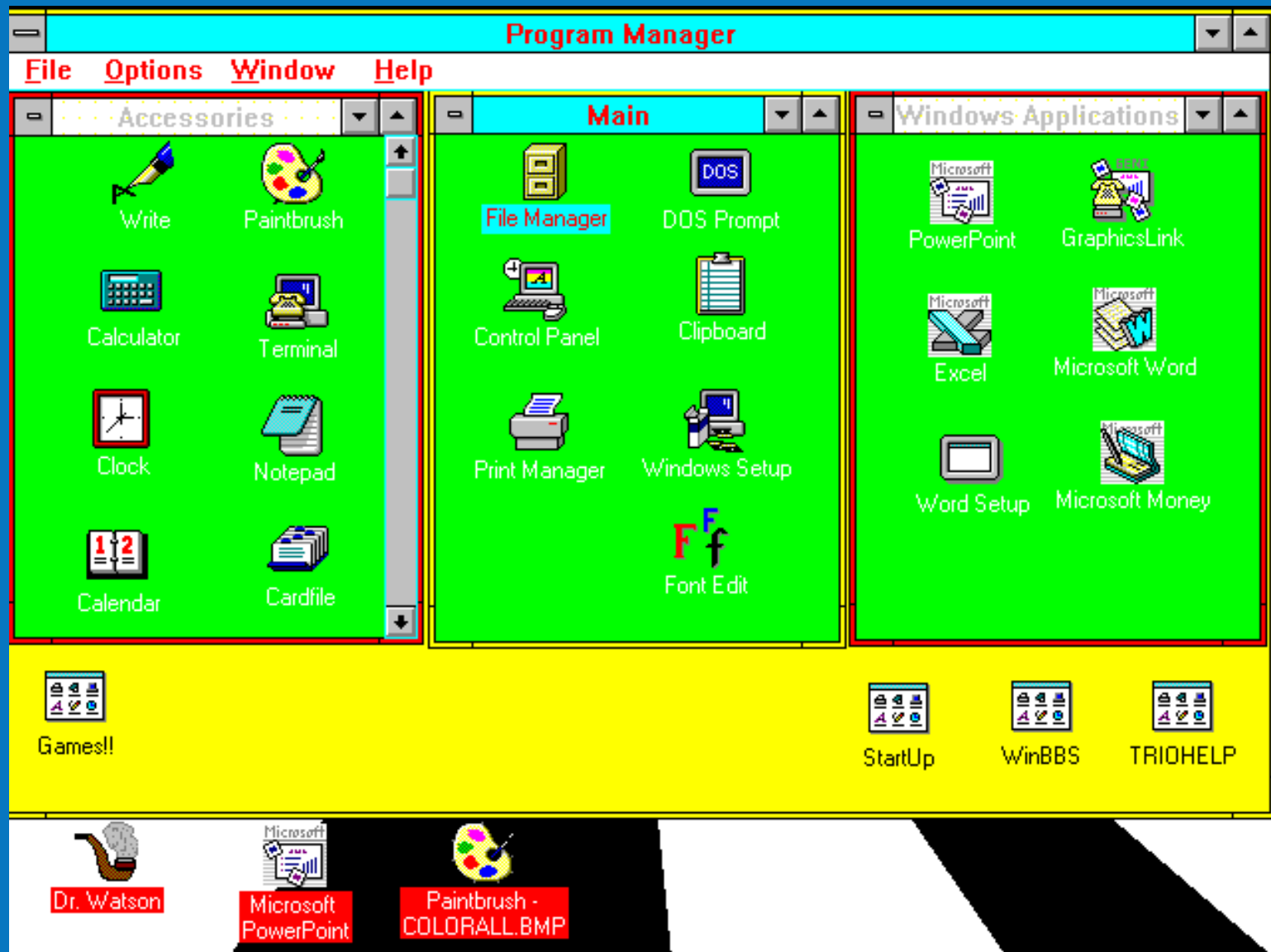
PRODUCED BY
ARTHUR BAKER
AND ARIS MARDIN

EXECUTIVE
PRODUCER
COURTNEY
SALE ROSS

1. Listen Up (Instrumental Version) 2. Kansas City Wrote + QUINCY JONES FOR UNDISCOVERED 3. Name Joe + QUINCY JONES 4. Let the Good Times Roll + ERIC CRADLER 5. My Man Catelyn + ISMAEL HAMILTON AND HIS ORCHESTRA 6. Party's Thro' the Motion Picture "The Color Purple" + QUINCY JONES 7. Tonight + ISMAEL HAMILTON AND HIS ORCHESTRA 8. Born of a Star + QUINCY JONES 9. My Way to the Moon + JAMES HAMILTON AND QUINCY JONES AND HIS ORCHESTRA 10. The Nightlife Don't Move Yet + SARAH ANDERSON 11. Rock On to the Wind the Robot People "The Flycatcher" + QUINCY JONES 12. To Whom's Theme from "Koraido" + Sanford and Son 13. 100% Soul (Theme from The Bill Cosby Show) + QUINCY JONES 14. Maybe One Is Right to Tell the Secret (from The Motion Picture "The Color Purple") + STEVE TROTT, BEQUEATHED FRANK and 15. Women Members of the Church Memorial Church at Oak in Christ Choir 16. Chasing in Japan + QUINCY JONES 17. Pop We'll Be the World (Instrumental Adaptation) + One Hundred Years + One We the People 18. No Control + Frank + We're Party + The Code + Staff Like That 19. How Do the Kids Do Music (Pop) + PARKER HOBBS AND PATTI AUSTON 20. Back in the Black (from "The Flycatcher") + Frank + One We the People 21. Don't Go to the Place You Find Love + It'll Be Good to You + We're B. Daniel + Tomorrow in Another Day, Better Day 22. Something + ARTHUR FRANKLIN 23. Listen Up (Vocal Version)

*Songs not included in motion picture









Keep Clean

VTRスタジオ



デザイン室

写真スタジオ



企1部倉庫





Affordances

- ◆ A well-designed interface affords correct use
- ◆ We process visual information much faster than verbal

Affordances:

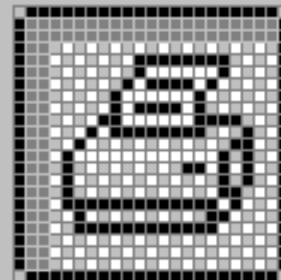
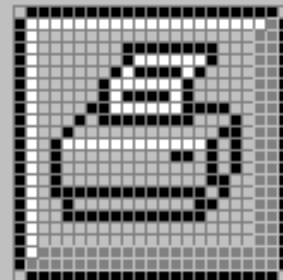


Up State



Down (Pressed-in) State

(scale 5:1)



Press Alt + B for bold text

At

Ln

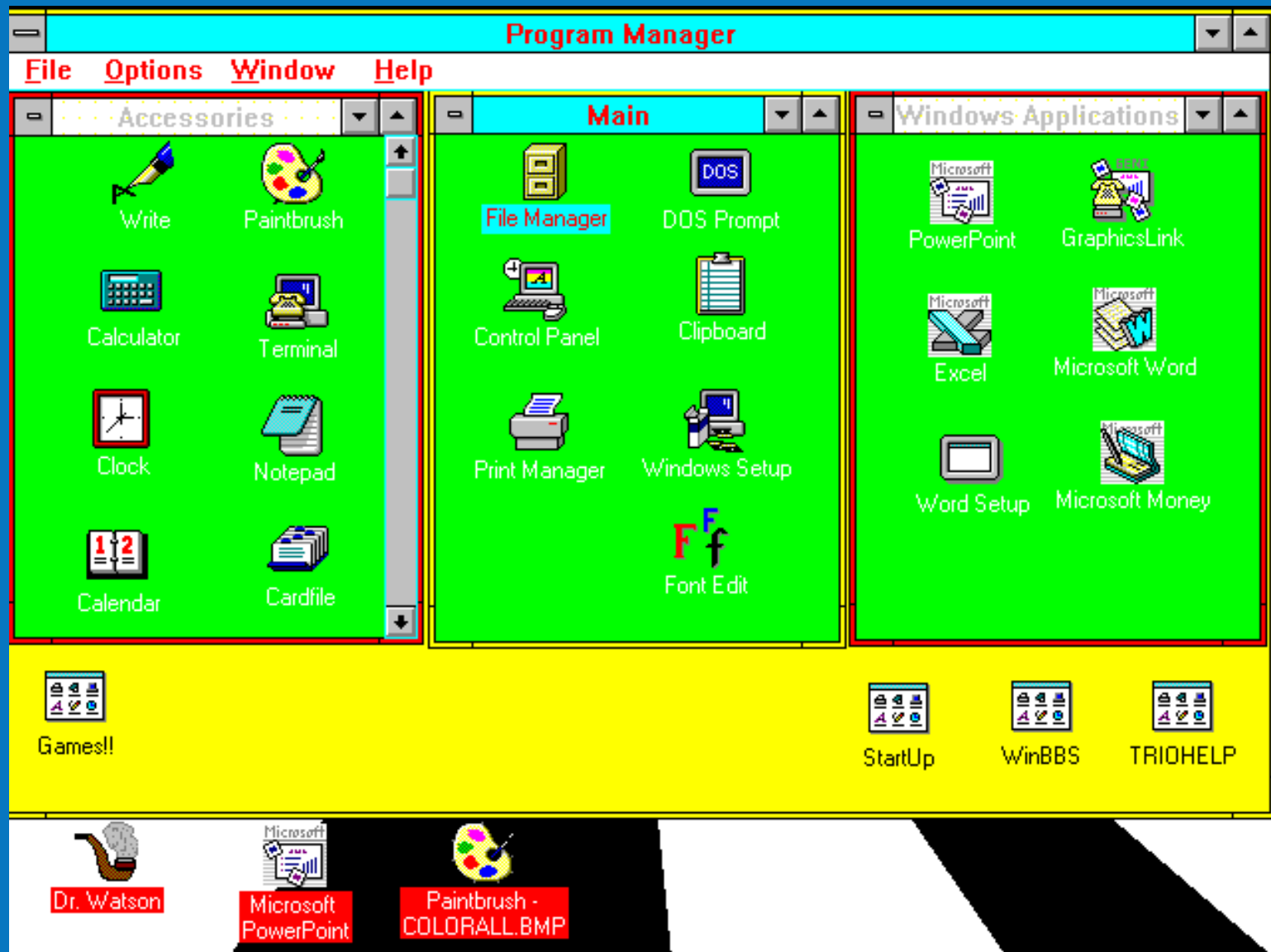
Col 1

Summary Of Recommendations

- ◆ Color
- ◆ Product and document icons
- ◆ Interface graphics
- ◆ Visual organization

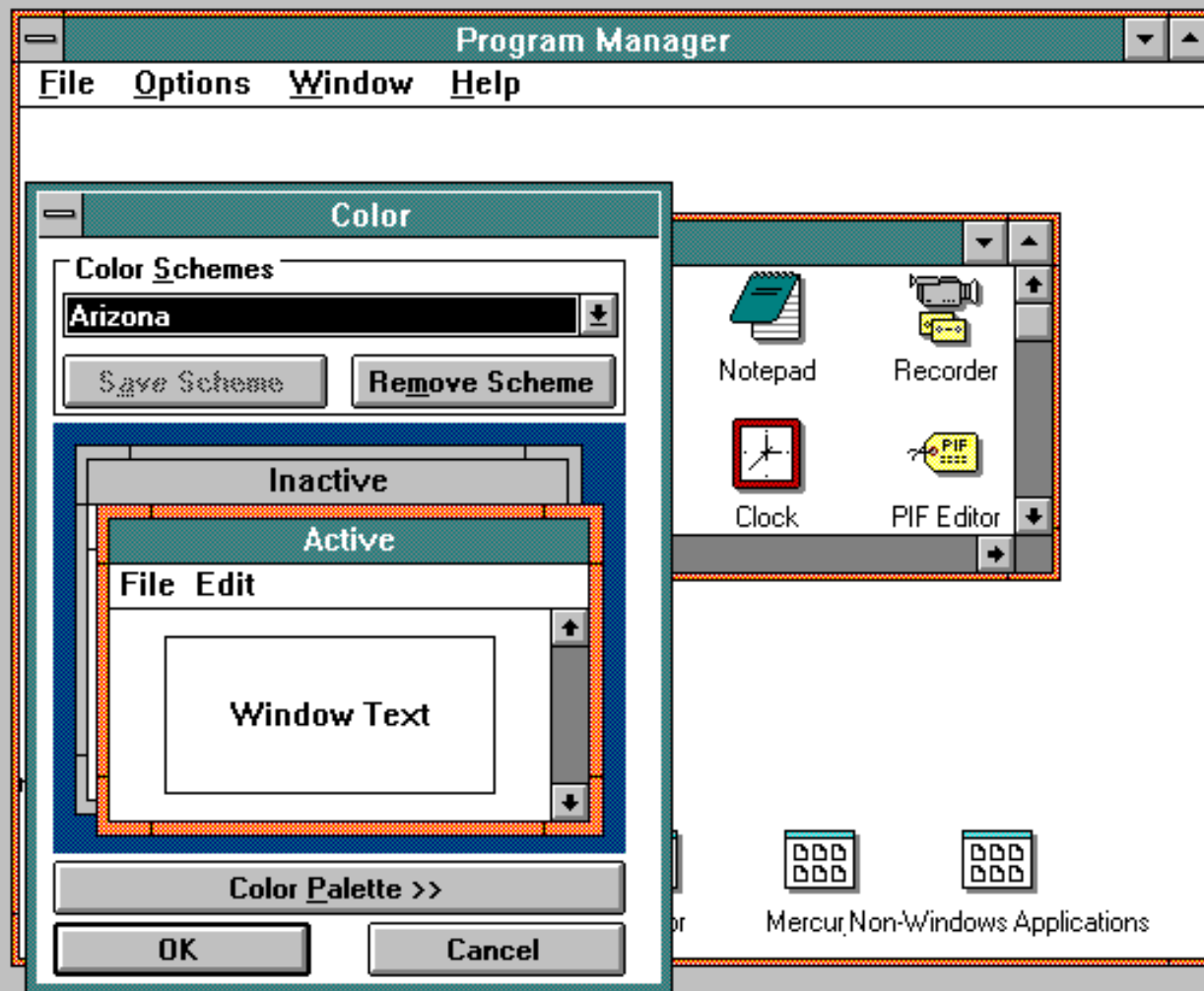
Color

- ◆ **Has emotional properties**
- ◆ **Always attracts the eye**
- ◆ **Communicates relatedness**
- ◆ **Color coding can be slow**
- ◆ **Be aware of color blindness and color confusion**



Color Is Emotional

- ◆ **Motivates**
- ◆ **Also distracts and degrades usability**
- ◆ **Recommendations:**
 - **Let the user pick the color**
 - **Use color schemes as well**
 - **Provide conservative defaults**



Color Attracts The Eye

- ◆ **Too much color makes the eye bounce all around for a circus effect**
- ◆ **Recommendation**
 - **Use a small number of colors**



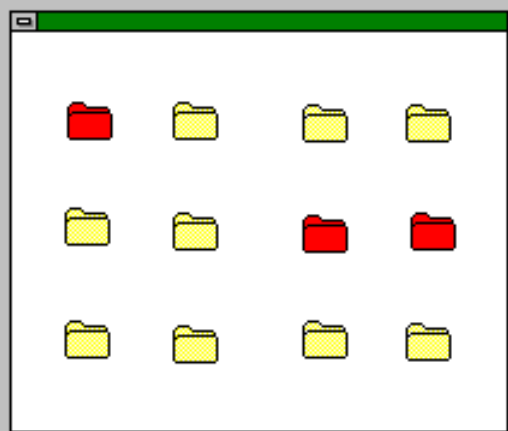
— Bad

Good —



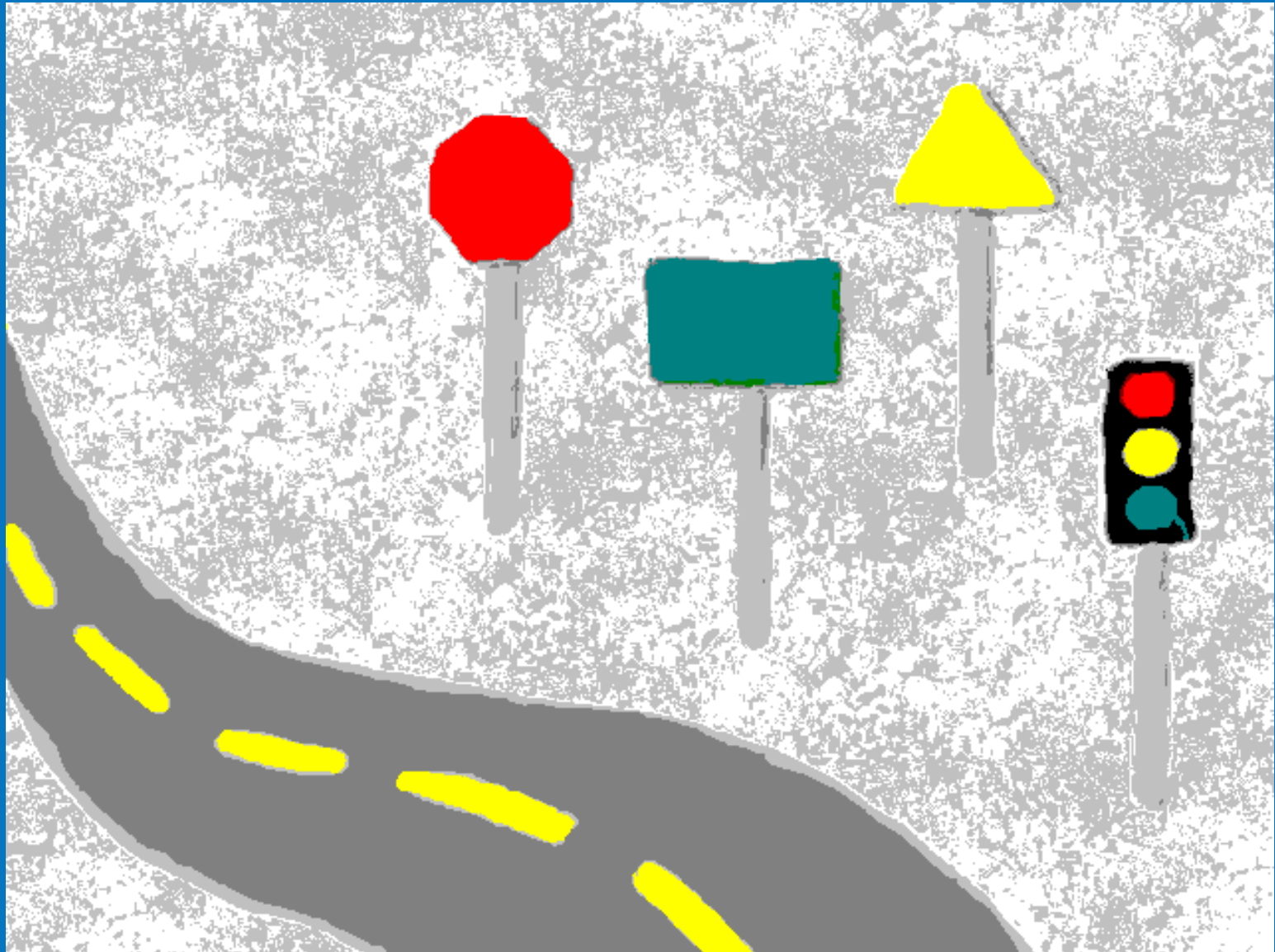
Color Communicates Relatedness

- ◆ **All the blue things will seem related, all the red things, etc.**
- ◆ **Recommendation**
 - **Use color for relating and layering information**



Color Coding Is Slow

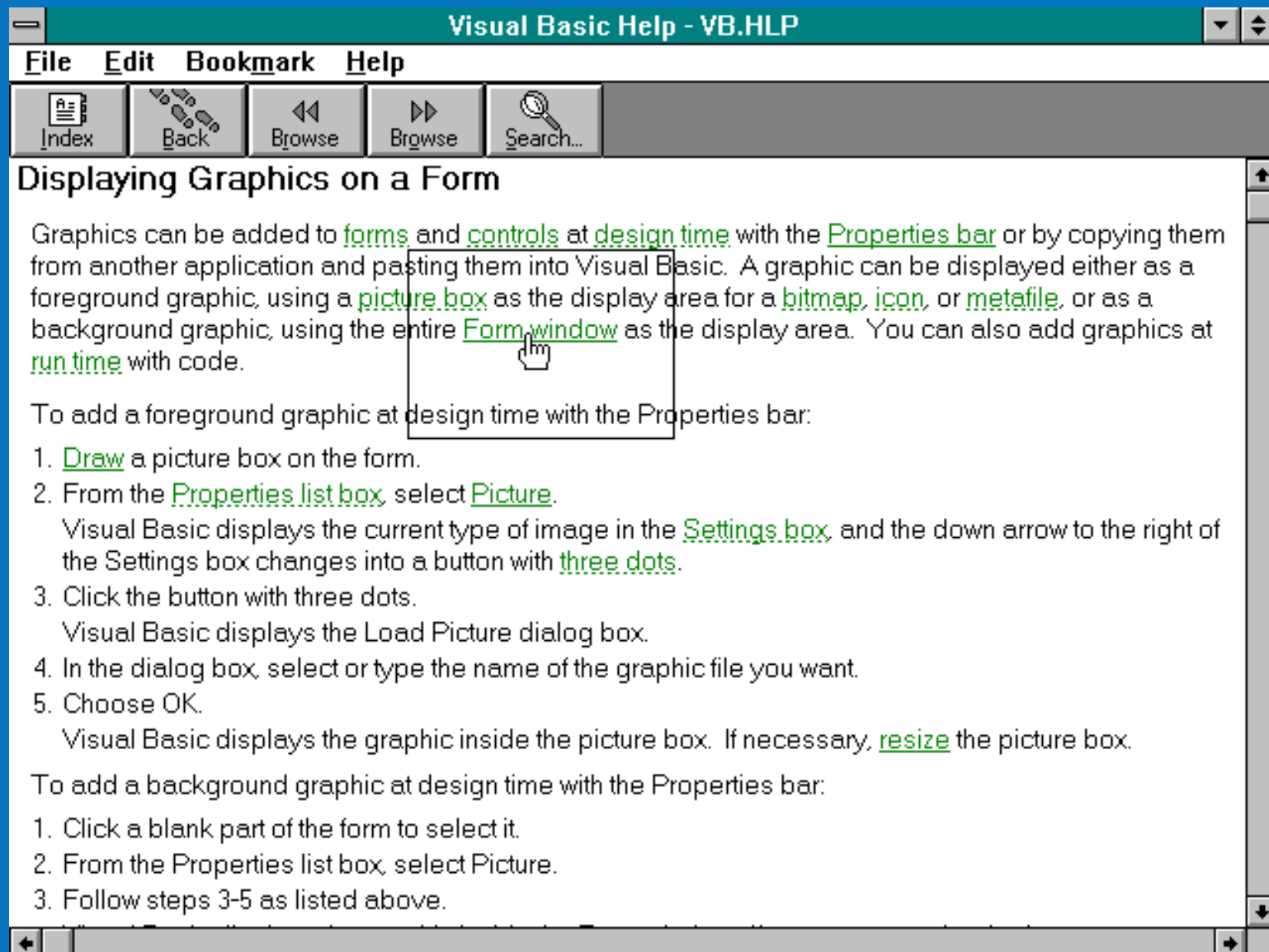
- ◆ We are slow to
associate a color
with a meaning
- ◆ Recommendation
 - Use minimal color
coding
- ◆ Where possible
associate it with the
real world
 - Red = stop; green = go



Color Blindness And

Color Confusion

- ◆ **Almost 10% of the male population has some form of color confusion**
- ◆ **Recommendation**
 - **Use color as a redundant cue**
 - **Never rely solely on color to communicate information**



Index



Back



Browse



Browse



Search...

Displaying Graphics on a Form

Graphics can be added to [forms](#) and [controls](#) at [design time](#) with the [Properties bar](#) or by copying them from another application and pasting them into Visual Basic. A graphic can be displayed either as a foreground graphic, using a [picture box](#) as the display area for a [bitmap](#), [icon](#), or [metafile](#), or as a background graphic, using the entire [Form window](#) as the display area. You can also add graphics at [run time](#) with code.

To add a foreground graphic at design time with the Properties bar:

1. [Draw](#) a picture box on the form.
2. From the [Properties list box](#), select [Picture](#).

Visual Basic displays the current type of image in the [Settings box](#), and the down arrow to the right of the Settings box changes into a button with [three dots](#).

3. Click the button with three dots.

Visual Basic displays the Load Picture dialog box.

4. In the dialog box, select or type the name of the graphic file you want.
5. Choose OK.

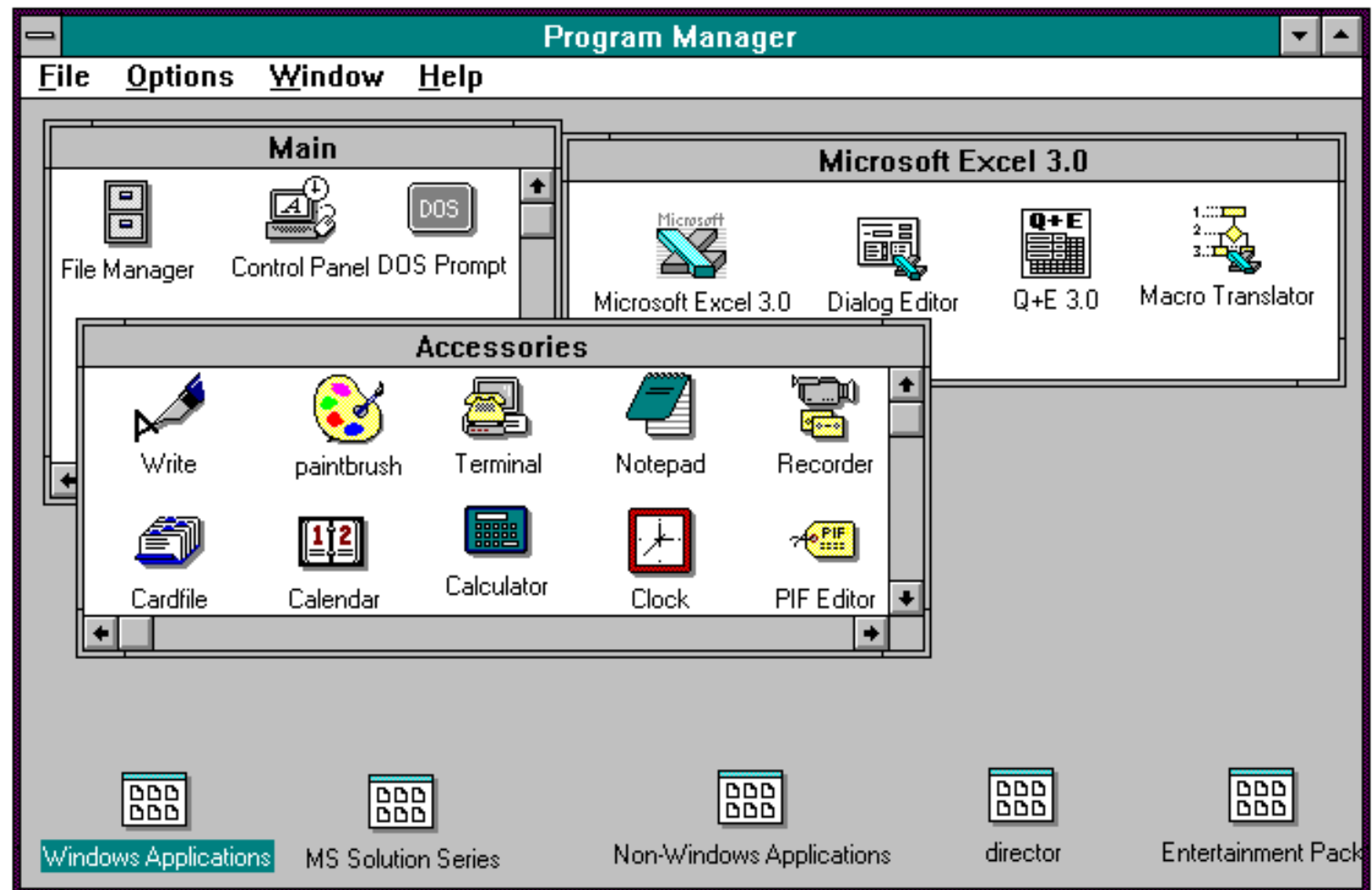
Visual Basic displays the graphic inside the picture box. If necessary, [resize](#) the picture box.

To add a background graphic at design time with the Properties bar:

1. Click a blank part of the form to select it.
2. From the Properties list box, select Picture.
3. Follow steps 3-5 as listed above.

Product And Document Icons

- ◆ **What kind of icons communicate?**
- ◆ **The dilemma between:**
 - **Icons that are recognizable**
 - **Icons that are easily remembered (recall)**



What Kind Of Icons Communicate?

- ◆ Not abstract symbols!
- ◆ People like realistic, illustrative icons
- ◆ People like simple icons



Toolbox Application

Color appropriate to subject



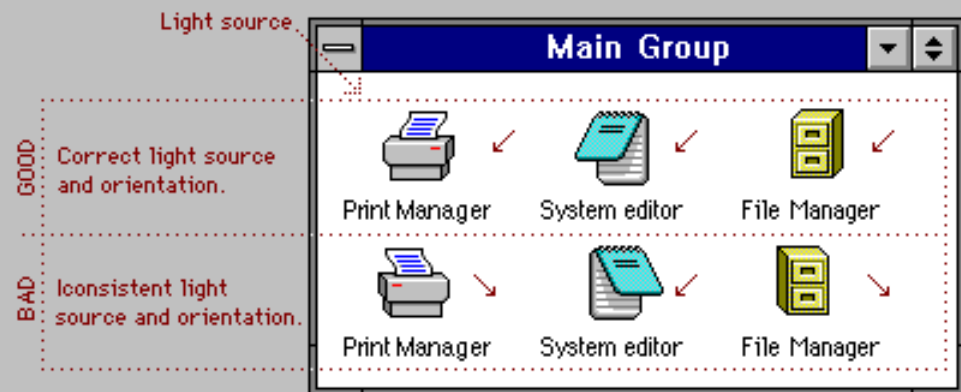
(scale 6:1)

3-Dimensional objects

Oblique angles

Icons - The Dilemmas

- ◆ Recognition versus recall
- ◆ Simple real world object
- ◆ Use color to enhance recognition, not as decoration
- ◆ A process is very hard to depict

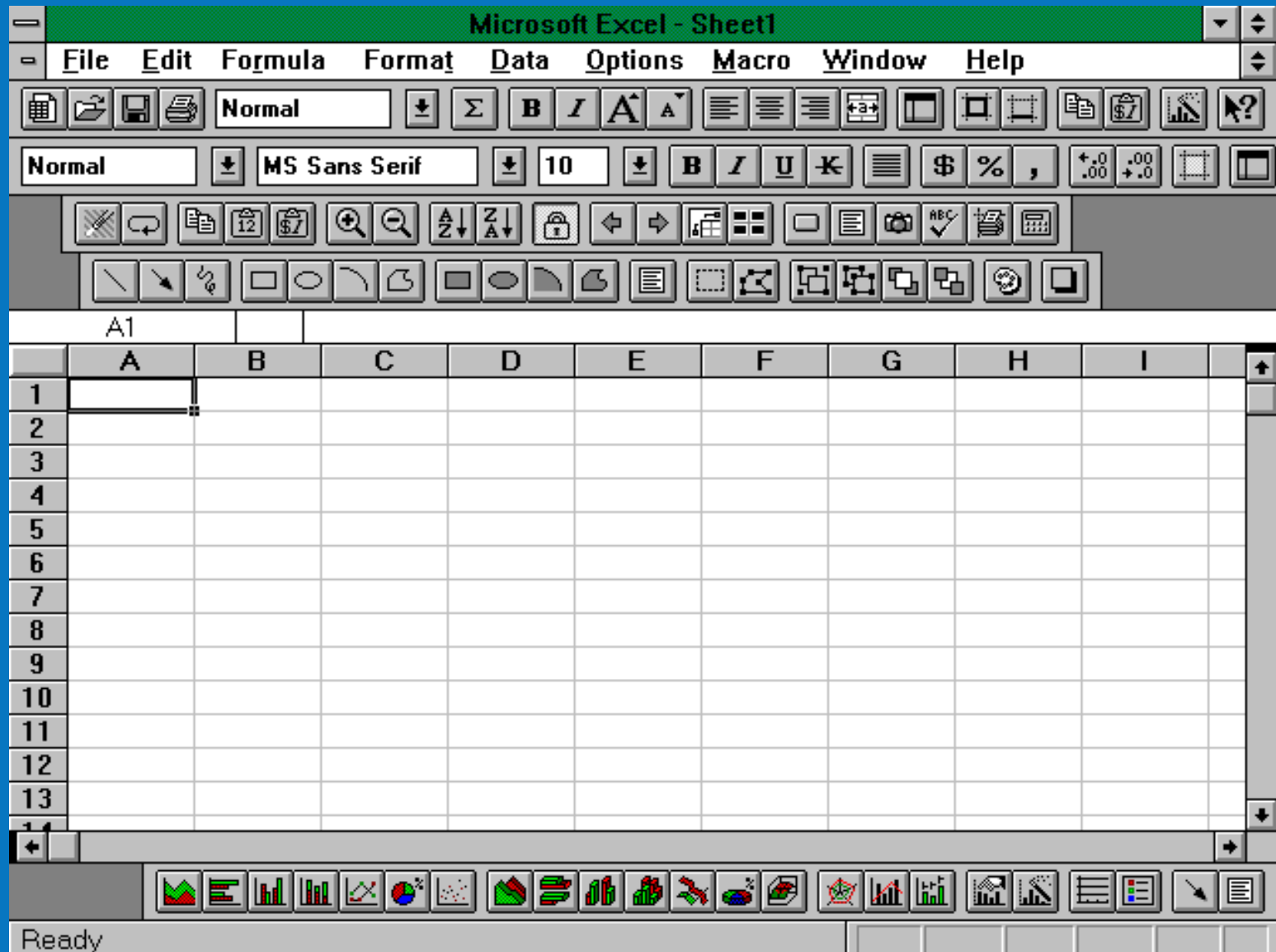


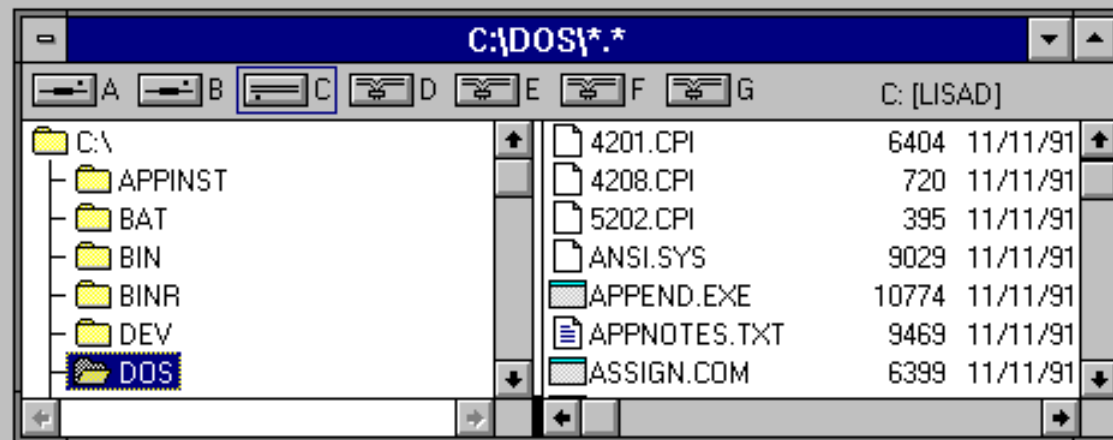
Remember: **Appropriate Detail**
 Realistic, Illustrative, Simple
 Black Outline VGA



Graphics And Small Icons

- ◆ Used for buttons, toolboxes, navigation symbols
- ◆ Will be learned, so it can be more abstract
- ◆ Recall is more important than recognition
- ◆ Use no color or minimal color
- ◆ Usability test!





Toolbar Button States

- ◆ Up
- ◆ Mouse down
- ◆ Selected
option
- ◆ Inactive



Up State

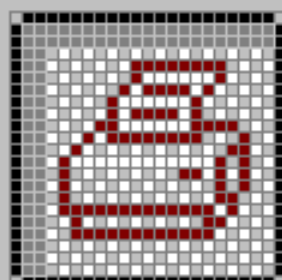
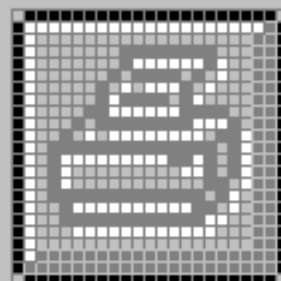
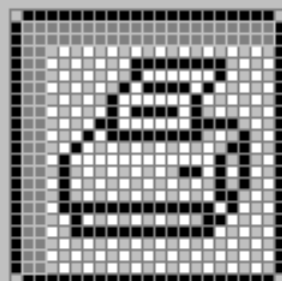
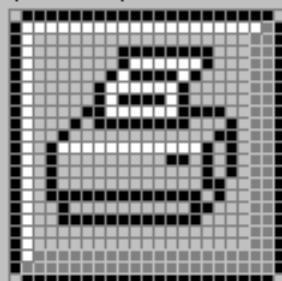


Down (Pressed-in) State



Inactive State

(scale 5:1)



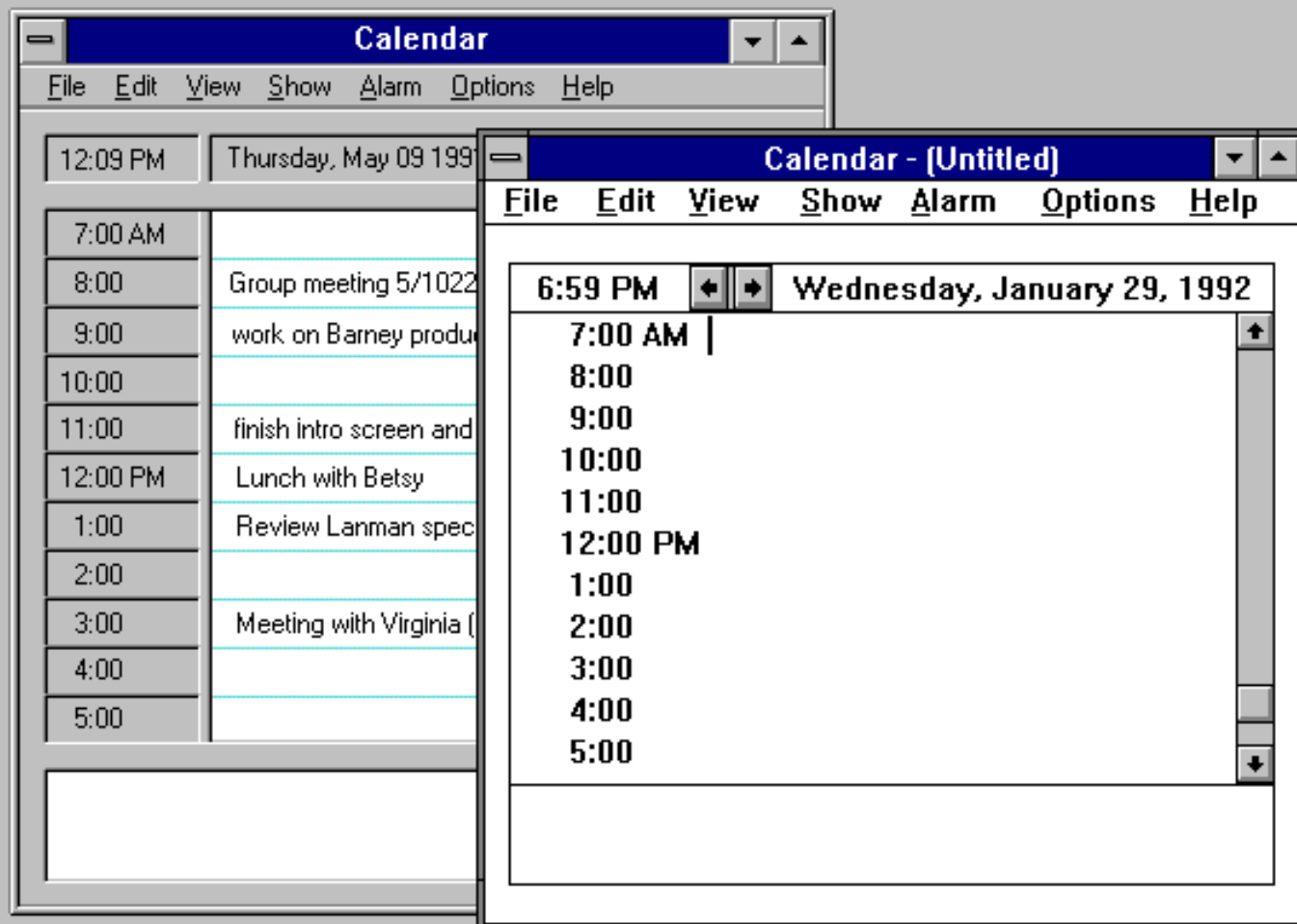
Up State

Down State

Inactive State




Visual Organization

- ◆ Visual processing arc
(where the eye moves)
- ◆ Hierarchies and layering
- ◆ Use spatial organization instead of lines
- ◆ Visual samples and graphics






Pointer Options

Size

Small Medium Large

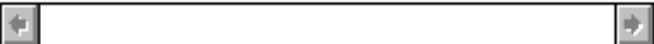
Color


Normal Reverse Transparent

Growth

☐ Pointer Growth Enabled



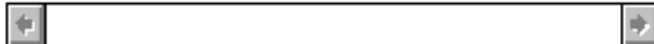
Slow Threshold Fast



Short Delay Long

Trails

☐ Mouse Trails Enabled



Shortest Trail Length Longest

OK Cancel Restore Help

MouseControl

Size


☐ Small

☒ Medium


☐ Large

☒ Pointer Growth

Trigger Speed

Slow  Fast

Duration

Short  Long


Color

☒ Normal


☐ Reverse

☐ Transparent


Mouse Trails


 ☒ Enabled


Length


Short  Long

Extra Points

 ☒ Magnify

 ☐ Snap-to

 ☒ Screen Wrap

 ☐ Locate

OK


Cancel

Reset

Orientation...

Sensitivity...

Help

 **Meet the Mouse**

Summary

- ◆ Include a graphic designer early in the development process
- ◆ Use color carefully
- ◆ Icons and graphics need to be recognized and recalled
- ◆ Usability and good design sell better than flashy graphics